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NEWSLETTER

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## Differences in Instruction Efficacy between On-Campus and Online Teaching

By Yang, C., Cheng, B. D., & Zheng, Y.

Correspondence to: Cheng, B. D., Beijing Forestry University, China. E-mail: [baodongcheng@163.com](mailto:baodongcheng@163.com)

THE study, published in *China Higher Education Research*, takes 1,630 undergraduates enrolled in 2019 and 2020 in University X as analysis sample. It conducts an empirical analysis of differences in instruction efficacy between on-campus and online teaching from the perspectives of class interaction, teaching atmosphere and student characteristics, and examines the influencing mechanism of online teaching efficacy. The propensity score matching method (PSM) is employed to analyze the differences in instruction efficacy and the degree of difference. In addition, the Poisson regression model is used to examine the factors influencing online teaching efficacy. The findings are as follows.

- There is a significant difference in instruction efficacy between on-campus and online teaching. The teaching patterns have a moderately strong influence on the test scores. Other interfering factors controlled, the online group score an average of 3.84 points lower than the on-campus group.
- Class interaction is an important factor affecting the instruction efficacy, and the intensity of interaction has a significant positive impact on grades. Teachers can significantly improve the efficacy of online teaching by adopting various interactive methods such as audio and video live broadcasting and increasing the frequency of interaction with students.
- The characteristics of teaching soft environment have certain influence on instruction efficacy. It is found that the efficacy of online teaching in experimental class is stronger than that in ordinary classes. Moreover, the relevance of the courses to students' majors has a significant impact on their academic performance. In other words, students are more likely to have better academic performance in courses with higher relevance to their majors than in those with lower relevance to their majors.

- Instruction efficacy is also affected by the individual characteristics. For instance, the efficacy of online teaching is lower for students in remote areas than for average peers, limited by the underdeveloped network infrastructure; It is also weaker for foreign students than for the average.
- Statistically, teaching software, teachers' experience, students' genders and the ways of enrollment (whether enrolled by uniform exams) and other factors have no significant impact on students' academic achievements.

Based on the research findings, the study suggests that at the undergraduate education level, online teaching should be applied cautiously rather than replacing on-campus teaching completely; Try not to select students in remote areas as subjects for online teaching experiment as they may have difficulty in adapting themselves to comprehensively electronized teaching; In online teaching, teacher-student interaction should be attached more importance to form a decentralized two-way communication pattern and the relatively equal teacher-student relationship typical in network teaching be fully utilized to promote students' exploration ability in their pro-active pursuit of knowledge.

*Source: China Higher Education Research, 2021(12):23-29.*